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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/554,018

01/23/2007

Edwin S. Olson

EER.P0018

2871

30163 7590 04/27/2010

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EXAMINER

JOHNSON, EDWARD M

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

04/27/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/554,018	<b>Applicant(s)</b> OLSON ET AL.	
	<b>Examiner</b> Edward M. Johnson	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12-21, 26-31, 36, 37, 39-50, 55-57, 59 and 61 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-21, 26-31, 36, 37, 39-50, 55-57, 59 and 61 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                     |                                                                   |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                         | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-21, 26-31, 36-37, 39, 41-42, 49-50, 55-57, 59, and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pahlman et al. US 6,579,507 in view of deJong et al. US 4,196,173.**

Regarding claims 1, 21, 27, 37, and 56, Pahlman discloses a method for regenerating a sorbent comprising removing used sorbent in a multi-staged manner, exposing to a dilute acid solution, and recovering the regenerated sorbent by removing the solution and drying (column 16, lines 25-44).

Pahlman fails to disclose a halide acid.

deJong discloses inorganic acids including HCl (Examples).

It would have been obvious to one of ordinary skill in the art to use the inorganic acid of deJong in the sorbent regeneration method of Pahlman because deJong discloses the acid

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for use in regenerating sorbent used in flue gas (Example), which process is improved for removing mercury (column 1, lines 34-45).

Regarding claims 2-14, 39, 41, 49-50, 59, and 61, Pahlman discloses acid solution (abstract) and deJong discloses inorganic acids including HCl (Examples).

Regarding claims 17-20, Pahlman discloses mixing with the acid, and water (claim 77).

Regarding claims 15-16, 26, 28-31, 36, 42, 55, and 57, Pahlman discloses activated carbon, alumina, and injecting sorbent into the gas stream (columns 2-3).

**Claims 43-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pahlman et al. US 6,579,507 in view of deJong et al. US 4,196,173 and Harmer et al. US 6,001,762.**

Regarding claim 43, Pahlman discloses a method for regenerating a sorbent comprising removing used sorbent in a multi-staged manner, exposing to a dilute acid solution, and recovering the regenerated sorbent by removing the solution and drying (column 16, lines 25-44).

Pahlman fails to disclose the claimed halides.

Harmer discloses bromine (column 3, lines 1-25).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the bromine of

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Harmer in the regeneration process of Leppin because Harmer discloses the bromine in a process for reactivation of catalysts (title) wherein improved activity and selectivity is achieved (columns 1-2).

**Claims 43-48 are rejected under 35 U.S.C. 103(a) as unpatentable over Leppin et al. US 6,475,451 in view of Harmer et al. US 6,001,762.**

Regarding claim 43, Leppin discloses a method for regenerating sorbent comprising injecting sorbent into a gas stream, removing in stages, and exposing to an acid solution (abstract).

Leppin fails to disclose the claimed halides.

Harmer discloses bromine (column 3, lines 1-25).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the bromine of Harmer in the regeneration process of Leppin because Harmer discloses the bromine in a process for reactivation of catalysts (title) wherein improved activity and selectivity is achieved (columns 1-2).

Regarding claims 44-48, Leppin discloses a sorbent bed, and acid solution (abstract, columns 7-8).

***Response to Arguments***

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Applicant's arguments filed 2/8/10 have been fully considered but they are not persuasive.

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection. Harmer discloses bromine (column 3, lines 1-25).

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward M. Johnson whose telephone number is 571-272-1352. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edward M. Johnson/  
Primary Examiner

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